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Northwoods Journal

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Enjoying and Protecting Marinette County's Outdoor Life

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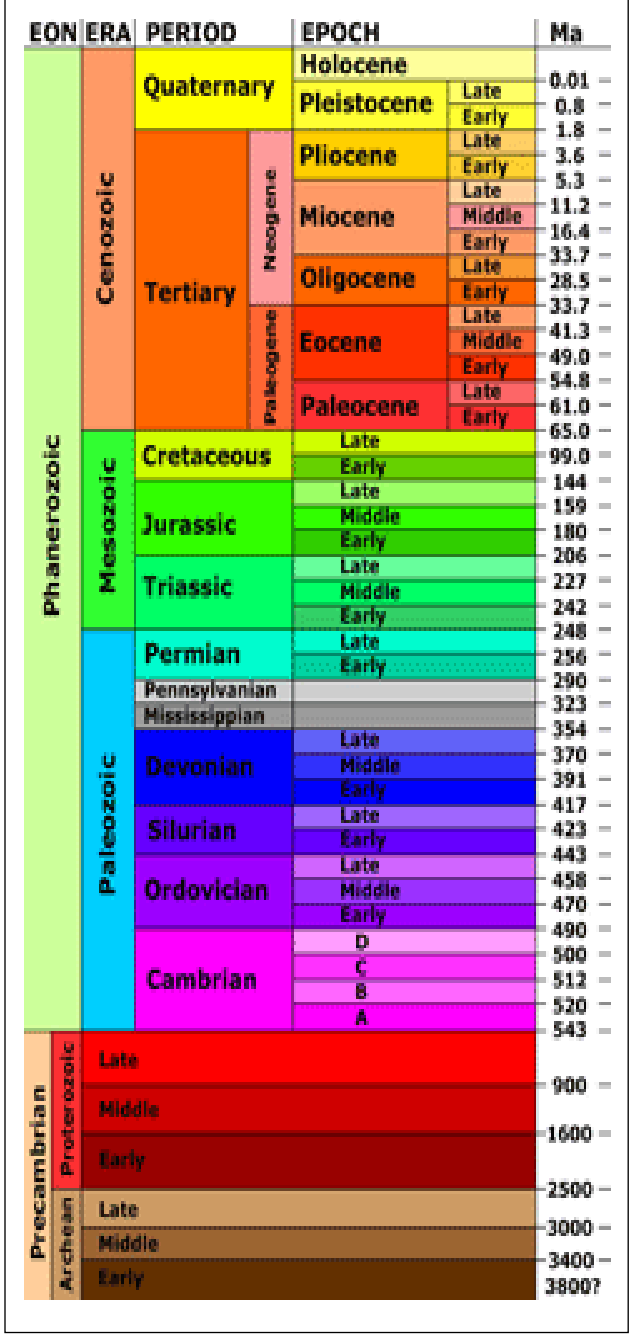
The Geologic Time Scale



A Geologic Tour of Marinette County

By Andrea Duca, Land Information Department Conservation Intern

Marinette County and the surrounding area has an interesting geologic past, with much of it hidden by glacial till left as recently as 12,000 years ago. Looking in a quarry in the southern portion of the county, you will most likely observe what most individuals call "limestone". *Dolostone* (or Dolomite) is the proper name, and it is extremely similar to limestone. The two are nearly indistinguishable in the field, except for testing with dilute hydrochloric acid. Dolostone is altered limestone where the original calcium (Ca) ion in limestone ($CaCO_3$) is replaced by magnesium (Mg). It is typically gray to buff in color, but may be reddish-orange from iron staining. The dolostone south of Pound and Porterfield is approximately 443-458 Ma (Ma=million years old).

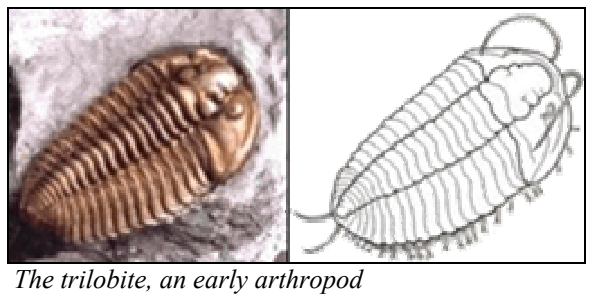
A sliver of exposed sandstone spans just north of Porterfield to just south of Crivitz, near Beaver. This is the very same layer that Green Bay's deep aquifer is recharged from. The sandstone in this area is mature, meaning it has been weathered intensely and the grains are very well rounded and sorted. Grain size varies across the region, but many outcrops will be difficult to find due to glacial overburden. This sandstone is 458-470 Ma.

The "thumb" of Marinette County near McAllister, southeast of the Middle Inlet area, is aged at approximately 470-490 Ma. This is another type of dolostone in Wisconsin and was deposited on Cambrian sandstone. As seen in the figure at left, "Cambrian" is an age-designating name for a span of time from ~490-543 Ma. Primarily igneous and metamorphic rocks encompass the northern half of Marinette County, and these rocks are old enough to be termed *Precambrian*.

The Precambrian is a long span of geologic time from around 543 million years ago to 2.5 billion years ago. Examples of some of the rock types present are basalt, rhyolite, andesite, gneiss, and granite. The series of events forming north-central Wisconsin took place over millions of years. The rock types present tell us of subduction zones (much like Japan's), active volcanism (like Hawaii), mountain-building and earthquake activity.

Examples of the rocks described earlier can all be seen here in Marinette County. Starting in the south around County Line, many of the quarries are dolostone and sandstone. However, these quarries differ from the 'gravel pits', which excavate primarily glacial alluvium from eskers and drumlins (see last month's issue online for an explanation of eskers & drumlins). Dolostone ("limestone") quarries taper off in abundance north of the Porterfield area. Many fossils can be seen and collected at some of the quarries.

Wisconsin's state fossil, the *trilobite*, is easily seen and rather abundant in some areas. The



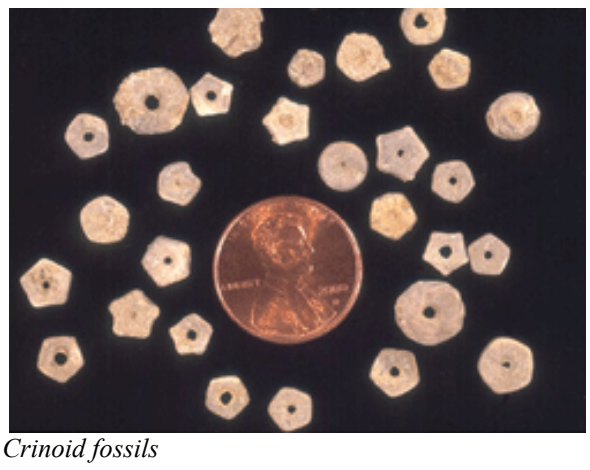
The trilobite, an early arthropod

trilobite was a small marine invertebrate that flourished in the Cambrian; it was also the first animal to have sight and compound eyes. Other fossils such as brachiopods, cephalopods, crinoids, tabulate- and rugose corals can all be observed if one looks hard enough.

A *brachiopod* is a type of mussel, whereas a *cephalopod* of the Cambrian is very similar to those we have today.

Cephalopod fossils

A *crinoid* is an animal that was attached to the sea floor by a long stalk. One species is still alive today, the sea lily. Crinoid fossils are easily found by looking for poker chip-like disks. They are typically smaller than one inch in diameter with a hole in the center.



Crinoid fossils

Tabulate and *rugose corals* are types of corals that flourished in the Cambrian and Ordovician. Rugose corals tend to be cone shaped and tabulate corals resemble many little windows stacked upon one another.

A book published by the Wisconsin Geological and Natural History Survey called *Common Paleozoic Fossils of Wisconsin* will aid you in your search for fossils in Marinette County (*http://www.uwex.edu/wgnhs/pdfs/orderpdf/fossil.pdf*). *Please be aware that not all quarries are open

Continued next page

Geologic Tour continued

to the public, and if you do gain access to a quarry please follow MSHA (Mine Safety and Health Administration) rules and wear a hardhat and steel-toe boots (*www.msha.gov*). Also, please respect the quarry owner's requests and instructions. Also when rock-hounding, know whether you are on public or private land, and if collection or hammering is prohibited or not.

Deposited before the dolostone in the southern portion of the county, the Cambrian age sandstone originated when sea level rose dramatically. An example of this sandstone can be seen on County P in Beaver, east of Highway 141, on the north side of the road. It is a smaller outcrop and is intensely weathered, but nonetheless a good example of Cambrian sandstone.

Just east of Mountain on County W, an interesting series of rocks can be found exposed along and near the road. At this location there are three different *lithologies* (or rock types) present, creating a great example of how complicated the bedrock in northern Marinette County can be. They are the Hager Feldspar Porphyry, Waupee Volcanics and the Baldwin Conglomerate.

Hager feldspar porphyry

The three are different, but are close in age: ~1470 Ma and older. The Hager feldspar porphyry was known as a rhyolite, but shows no evidence of being volcanic in origin. Most geologists now consider it a near-surface intrusive rock, part of the extreme north end of the Wolf River Batholith (a giant granitic intrusion underlying most of northeast Wisconsin.).

Northwoods Journal

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The *Northwoods Journal* focuses on various outdoor recreation opportunities and local environmental topics to inform readers about natural resource use, management, and recreation in Marinette County.

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Baldwin conglomerate

The Waupee Volcanics are a sequence of metamorphosed *tuffs* (volcanic ash) and *breccias* (like pumice with larger pore spaces). As the oldest rocks present at this outcrop, the Waupee Volcanics were most likely formed by a layer of tuff and breccias altered by intense heat and pressure. At this location the Waupee Volcanics can be found approximately 200 yards east of the large outcrop of the Hager Feldspar Porphyry. At the top of the outcrop of Waupee Volcanics, the rocks display abundant *foliation* (layers in a volcanic/metamorphic rock). The Baldwin Conglomerate is a *conglomerate* (large rounded pieces cemented together by a finer rock) made of quartz, granite/gneiss pebbles and Waupee Volcanics pieces.

A great outcrop of rhyolite at High Falls Dam is located off High Falls Road in Crivitz. If driving from the County W outcrop near Mountain, proceed east on County W until you reach Parkway Road, travel north, then north again on High Falls Road. The rocks here are very similar to the Hager feldspar porphyry in that they are very similar to a rhyolite, but are most likely a finer-grained intrusive rock. There is a lot of exposure at High Falls, and the rock types change and shift a bit because of the rock being intruded, so keep your eyes open for changes. There are also a number of great examples of glaciation here. One can see glacial striations, chatter marks, crescentic gouges, and a *whaleback*. A whaleback is formed when ice flows over a jointed outcrop. The ice presses the joints shut on the upstream side and smoothes the rock off, producing a streamlined shape. On the downstream side, the ice pulls the joints open and plucks blocks away, creating an irregular, blocky face.

Some readers may have heard of Butler Rock; though it is in Oconto County, it is another much larger outcrop of the Waupee Volcanics. Most of the outcrop is overgrown with lichens, so the best way to see an unweathered rock face is to find or create a fresh break. Also, much of the area surrounding Butler Rock is rather swampy, so bring appropriate gear. One route to Butler rock is County W east of Mountain to Bear Paw Road to West Butler Rock Road; for the more adventurous, National Forest Road 2107 and 2309 will also get you there.

Butler Rock

Shifting to the eastern half of the county, in Amberg we observe quite a different rock type. This outcrop is located on County K adjacent to the Pike River. It is a very well exposed outcrop of Biotite granite, which means that instead of the typical combination of *muscovite* (mica), potassium feldspar and quartz, the muscovite is replaced with biotite. *Biotite* is a darkly colored magnesium-iron while muscovite is an aluminum silicate. This outcrop looks similar to the granites of the Wolf River Batholith; however, it is unlikely it is part of that deposition (~1400 Ma).

Approximately 20 miles to the northeast, Pemene Falls spans across the Menominee River. A bit out of the way, Pemene Falls is worth the drive. Access on the Michigan side is less primitive and can be reached (if coming from the stop in Amberg) by continuing on County K (turns into 'Chalk Hill Road number 27 Five' in Michigan). There are signs for Pemene Falls with parking above the falls and a short trail down to the falls.

Pemene Falls

The geology at Pemene Falls consists of what is most likely *andesite* with abundant quartz veins. Andesites are volcanic rocks of intermediate composition and are characteristic of subduction zones, making the rocks of Pemene Falls ~2 Ga (Ga=billion years old). Some of the quartz veins lie along faults, which means the quartz veins are younger and were not formed at the same time as the andesite.

Pemene quartz vein

One can also experience lots of geology and get to see most of Marinette County by following the county's self-guided "Waterfalls Tours". Allow about 3 days to complete the waterfalls tour of the "Waterfalls Capital of Wisconsin". More information can be found at *http://therealnorth.com/waterfalls.html*, or by calling the Marinette County Parks Office at (715) 732-7530.

Many guides are available to the amateur geologist, one being the *Roadside Geology of Wisconsin* by Robert Dott & John Attig, published in 2004. *Roadside* takes the reader on many different highways across Wisconsin detailing different geology, interpreting stops, and giving background on the geologic history of that area. Another book is *Wisconsin Waterfalls*, by Patrick Lisi, who mentions many of the falls in Marinette County. Other maps and information can be accessed and ordered through the UW-Extension/Wisconsin Geological and Natural History Survey (*http://www.uwex.edu/wgnhs/)* or by phone at (608) 623-7389.

See page 5 for a map of locations discussed in this article.

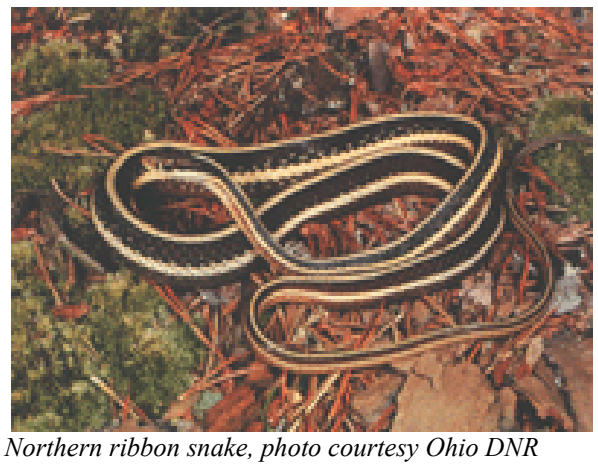
Our Resident Reptiles: Snakes Part One

By Aleta DiRienzo, Land & Water Conservation Division
Photos courtesy of A.B. Sheldon and WDNR

Last month we discussed the turtles and lizards that reside in Marinette County. This month we will learn about the snakes that reside in our county and some of the misconceptions surrounding these amazing creatures. Marinette County is home to 10 species of snakes. Here we will discuss the five species that bear live young: the Northern Ribbon Snake, the Common Garter Snake, the Brown (or DeKay's) Snake, the Northern Redbelly Snake and the Northern Water Snake. Next month will focus on the egg layers: the Northern Ringneck Snake, Eastern Hognose Snake, Smooth Green Snake, Western Fox (or Pine) Snake and the Eastern Milk Snake.

People have long feared snakes; they are misunderstood, under appreciated and heavily persecuted. The fear of snakes comes from the many myths, folk tales, and misrepresentations about this reptile. In some cultures the snake is associated with evil and sin, in others snakes are symbols of healing and fertility. Snakes do not actually have any magical or healing powers and they are neither good nor bad in themselves - humans are the ones that put symbolic and emotional meanings to snakes. Snakes are secretive by nature, especially during the summer months, when they often retreat underground or under dense vegetation to avoid getting overheated during the day. A few species may become nocturnal during periods of very warm weather. Wisconsin snakes are generally active from April to October and remain dormant underground for the balance of the year.

Snakes play a very important role in many natural communities as both predator and prey. They consume large numbers of insects and small vertebrates, and many are a food source for mammals, other snakes, and birds of prey, especially hawks. The large snakes are especially important to the ecosystem of Wisconsin for rodent control, which is important for both the agricultural community and to help control human disease threats (Hanta virus and Lyme disease) posed by large rodent populations. Many snake populations have declined in Wisconsin due to habitat loss and human persecution. Even today, people who don't understand snakes needlessly kill them. Of the 21 snake species that live in Wisconsin, 10 are listed as endangered, threatened or of special concern by the Bureau of Endangered Species. In Marinette County the Northern Ribbon Snake is on the endangered species list and is rarely seen in the wild.

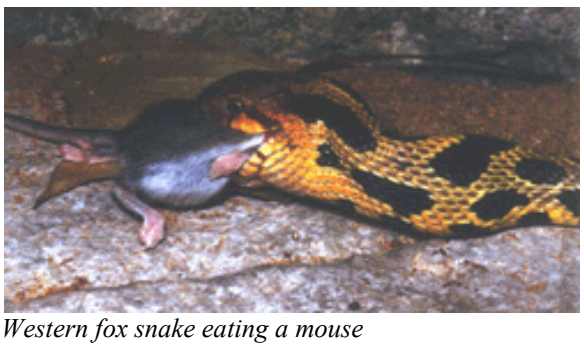


Northern ribbon snake, photo courtesy Ohio DNR

Snakes occur throughout the world and vary in length from 5 inches to more than 30 feet. They are closely related to lizards but do not have eyelids or ear openings. Although snakes don't "hear" like we do, they can sense low-frequency sounds and vibrations transmitted through their jawbones. Snakes are *ectothermic*, meaning they are dependent on their immediate surroundings to regulate body temperature. They may be cold to the touch but they are never slimy. All reptiles have dry scaly skin, and snakes are no exception. Reptiles' scales are a protective layer formed by *keratin*, the same material as human fingernails, mammalian hair, and bird feathers. Scales help snakes to maintain their internal moisture and they take the wear and tear of crawling about. Scales may also be colored to help with camouflage, depending upon where the snake lives. The number, shape, and arrangement of scales tend to be fairly constant within a given species but can vary greatly among different species.

Yellow-bellied racer in the process of shedding

Shedding is triggered by a snake's growth and scale wear. Young snakes may shed two or three times a year during the active season due to growth. Once mature, a snake may only shed once a year, but this can differ between species and is also based on food supply. Just before shedding, a snake's appearance becomes dull and the protective scale covering each eye, or *spectacle*, becomes milky and opaque, temporarily clouding the snake's vision. During the shedding process, the snake may be more irritable when encountered, so will remain hidden and stop feeding. In a few days the eyes clear up and within four to five days the skin is shed. The shedding process starts at the lip scales and the snake will rub its face against rough objects to fold the scales back on themselves. Once the head is free, the snake will continue to rub against rough objects catching the loose skin on rocks or branches so that the snake will crawl forward out of its skin, turning it inside out. The old skin is abandoned, and unlike many lizards snakes do not eat their newly shed skin. After the shedding process, the snake's markings will be bright and clear, and the scales will appear glossy.



Western fox snake eating a mouse

All snakes are carnivorous, feeding on mammals, birds, insects, amphibians, and even other snakes. Some snakes seize prey and immediately swallow it, and some snakes use constriction to kill larger prey. Constrictors do not crush their victims - they merely prevent the prey from breathing so it suffocates. Marinette County is not home to any venomous snakes, but there are two species of rattlesnakes in southwestern Wisconsin that inject venom into prey using hollow fangs - this feeding strategy is called *envenomation*.

When searching for food, the snake's tongue plays a vital role. The tongue will flick in and out through a notch in the front of the upper lip, and when a snake is exploring the tongue will flick more frequently. When the tongue is extended, odor particles will adhere to it. When the tongue is brought back into the mouth, the odor particles are transferred to the roof of the mouth near a gland called the *Jacobson's organ*. This organ then sends "taste" information to the brain – so when a snake flicks its tongue at you, it is merely trying to figure out what you are. When eating large prey, their airway may be blocked, so they have a protrusible opening that can extend towards the edge of the mouth beneath the prey; this allows the snake to still breathe when eating.

As quoted by the late Herpetologist Clifford Pope, "Snakes are first cowards, next bluffers and last of all warriors". If a snake is faced with a potential threat and is given an avenue of escape it will quickly crawl away or take refuge in a secure hiding place. Many snakes depend upon camouflage to remain hidden, and will flee if possible. If nothing else works, they will go into other defense behaviors such as hissing, emitting odors, playing dead, and raising the head into a striking position. These tactics are used only when a snake feels extremely threatened.

Litter of live-born rattlesnakes

Most snakes breed upon emergence from hibernation in the spring, and some species will breed in the later summer or early fall. The live young are called *litters* and the eggs are called a *clutch*. Litters can range from one to more than 150 newborns, but ultimately the number in the litter depends on the female's health and food resources. Usually the maximum litter sizes occur in well-fed zoo snakes, but rarely in wild ones. Many of the live-bearing snakes are on a two to three year cycle to conserve energy. Egg clutches range from one to more than 100 eggs, and most snakes do not protect their eggs once laid.

Species Descriptions

The Northern Ribbon Snake is a slim-bodied, striped snake with a very long tail (see picture at far left). It has three yellow, greenish-yellow or white stripes with a background coloration of dark brown or black, and the white underside often grades into yellow near the tail. This snake is considered endangered and the fate of this species is tied to the availability and health of wetland habitats. It has been found infrequently throughout the eastern part of the state, mainly near wetlands and bog edge habitat. Frogs, salamanders, and small fish are their main food source; the ribbon snake itself is preyed upon by many wetland predators such as herons, hawks, minks, and raccoons. These snakes can dart through vegetation with great agility and do not hesitate to swim to escape an enemy.

The Common Garter Snake is Wisconsin's most abundant snake. They are found in every county and in nearly every habitat type, although they seem to prefer forests and woodland edges. Typically this snake has three light stripes on a background of black, brown, gray or olive.

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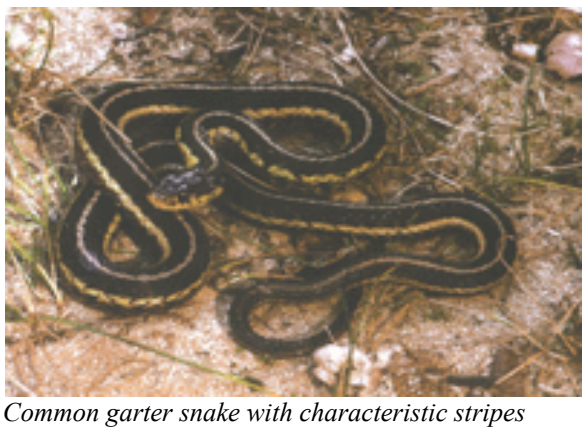
Resident Reptiles continued



Common garter snake with characteristic stripes

The stripes may be yellow, greenish yellow, brown, bluish or white. The underbelly can be yellow, greenish yellow, tan, white or even pale blue. It feeds primarily on invertebrates like earthworms, insects, and slugs, and will also eat rodents and other snakes. Predators include fish, bullfrogs, turtles, birds, other snakes, and mammals. This snake is probably the most well known snake of our native snakes, due to their ability to survive in urban and suburban settings. Even though they are adaptable and relatively prolific, they are not immune to the effects of human activities. It is important to monitor the wellbeing of the so-called common species, as they are an important indicator of environmental health.

The Brown, or DeKay's, Snake is a very small thick-bodied snake, light brown or grayish-tan in color, and is marked with a light stripe bordered by two rows of small dark spots. The underside is white or light pink with dark pencil point spots along the edges of the belly scales. The young are

Brown snake – note the rows of dark spots

darker then the parents with a light band or "collar" around the neck. This species occurs in a variety of habitats, and spends much of its time of below ground or under leaf litter or surface debris. Brown Snakes are largely nocturnal, especially in the summer, and feed primarily on small invertebrates like earthworms, snails, and slugs. Predators include large amphibians, birds, weasels, and domestic pets. These secretive little snakes often remain undetected by their human neighbors, but are in constant danger of rapid extirpation by development activities or exposure to toxic chemicals.

The small Northern Redbelly Snake is a reddish-brown to steely-gray color, and the bright red to orange underbelly is edged with dark blue-black. The back may be unmarked or have a hint of a

Northern redbelly snake

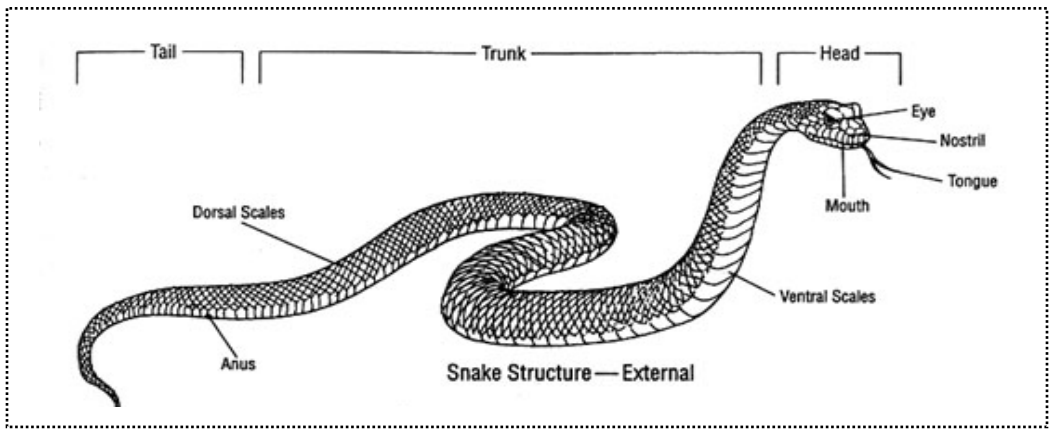
mid-dorsal stripe. Being a cold-tolerant snake, their yearly activity period extends from April to November, depending upon local conditions. They prefer mixed woodlands and adjacent fields, pastures, road embankments, marshes and bogs. This harmless and inoffensive little snake should be welcomed around yards and vegetable gardens, due to its slug eating habits. They also feed on earthworms, insect larvae, and pill bugs. Predators include other snakes, birds, shrews, raccoons, ground squirrels, and domestic pets.

The Northern Water Snake is a species that is most often persecuted due to mistaken identity. It is often called a "water moccasin" (another name for the Eastern Cottonmouth), and in error is considered venomous. **There are no water moccasins in Wisconsin and the northern water snake is <u>not</u> venomous.** "Water moccasins" are only native to the southeastern parts of the United States.

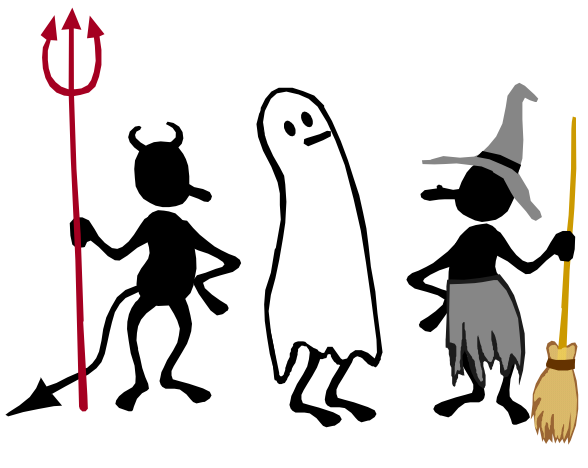
Northern water snake

This is a medium to large heavy-bodied snake that is gray, brown or tan and marked with a variable pattern of dark brown, red-brown or black bands or blotches which often fade with age. The underbelly is quite distinctive, white with bright orange-red half moons interspersed with dark speckles. It prefers to live in or near permanent bodies of water, including rivers, streams, sloughs, lakes, ponds, bogs, marshes and swamps. They are most active during daylight hours during spring and fall, but can become nocturnal during summer. Primary prey includes fish and amphibians. When threatened, these snakes will head out to deeper water and can stay submerged for up to an hour. Predators include large fish, snapping turtles, other snakes, birds, and mammals. Unwarranted persecution, combined with shoreline development, has led to local extirpation of this species in some areas.

For more information about snakes, go online to *http://dnr.wi.gov/org/land/er/herps/snakes/* (Wisconsin DNR) or visit *http://www.madison.com/communities/whs/* (Wisconsin Herpetological Society). You can also refer to the books used to provide information for this article: *Amphibians and Reptiles of the Great Lakes Region* by James H. Harding; the WDNR publication *Snakes of Wisconsin* by Rebecca Christoffel, Robert Hay and Lisa Ramirez; and *Snakes in Question, the Smithsonian Answer Book* by Carl H. Ernst and George. R. Zug.



VOLUNTEERS NEEDED FOR HAUNTED HARMONY 2008!



"Haunted Harmony" is a family-friendly Halloween-themed event sponsored by county employees, local volunteers and businesses. Its success is solely dependent upon donations and community involvement, and we are looking for volunteers to help out for this year. Haunted Harmony will be held October 24-25th from 6:30-10:00 p.m. each night.

A variety of opportunities are available for volunteers. Leading trail hikes, helping at the kids' area, driving tractors, hosting scare stations, and taking admission are some of the volunteer duties available.

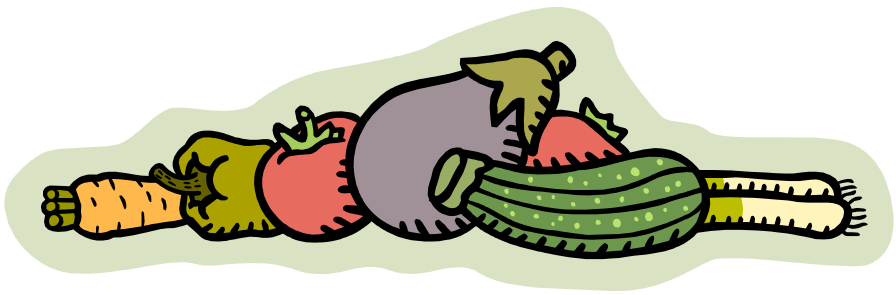
"Scare Stations" are the spooky areas along the hiking trail that make this event so exciting! Individuals, families, and groups are welcome to participate, and the more scare stations we have, the better. If you love scaring people, and want to participate in a fun Halloween activity, this event is for you.

This is especially a great opportunity for students, scout groups, youth groups, and others looking for interesting ways to fulfill volunteer or community service hours.

Haunted Harmony is an exciting and beneficial event for the whole community - admission is non-perishable food items for local food pantries or items for the Menominee Animal Shelter.

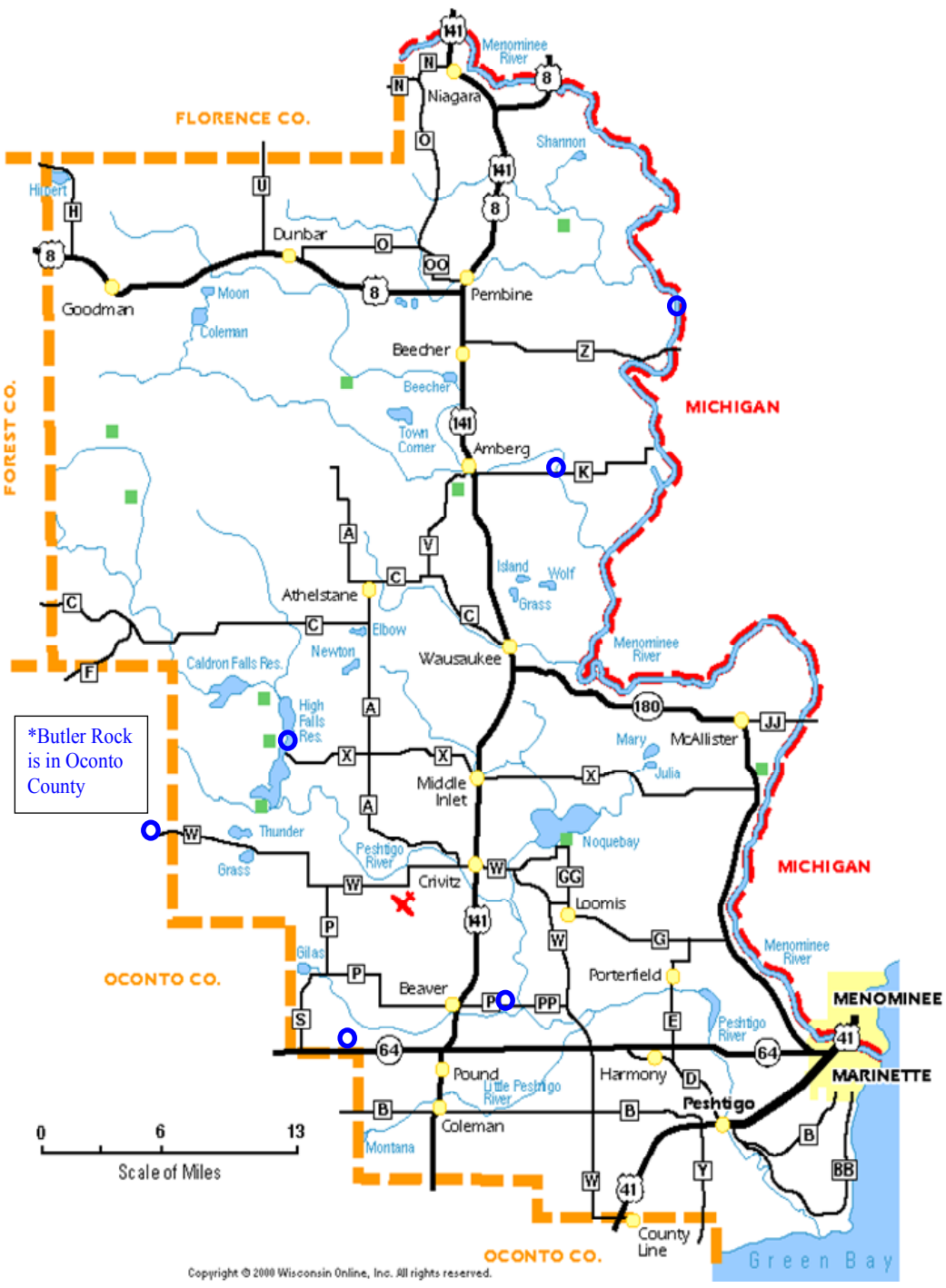
To volunteer or for more information, please call Aleta DiRienzo at 715-732-7780 or email *adirienzo@marinettecounty.com.*

Summer Squash Spectacular!



Did you know there are over 25 different types of summer squash? Every one of them will be available for viewing, tasting and learning about at the UW-Extension *Summer Squash Spectacular* event at the Harmony Arboretum Pavilion on Tuesday, August 19th from 6:00-8:00 p.m. Although zucchini sometimes gets a bad rap, the summer squashes are one of the most versatile vegetables in our gardens. Learn about them and other fruits and vegetables in the garden from Scott Reuss, UW-Extension Agriculture and Horticulture Agent for Marinette County. The Northern Lights Master Gardeners will also be on hand to give tours of the gardens. Perhaps you would like to take part in the zucchini boat and car building and racing. So bring the family for a relaxing, enjoyable evening (no charge for this event). For more information, see the Harmony Arboretum Calendar on page 8 or call Linda at the UW-Extension office at 715-732-7510, or toll free 877-884-4408.

From page 2, *Geologic Tour of Marinette County*



: Denotes approx. location of outcrop

OOPS! - A correction from the editor - please look for Anne Warren's Isle Royale article in the September issue of the Northwoods Journal, not this month's issue. Our apologies!

Where in Marinette County?

Tell us where this is and you could win a prize!

Please note that this year's "Where in Marinette County" contest photos are of a more historical nature, so be sure to take a close look at the photo subject!

To enter, send a note including your name, address, and phone number or email *awarren@marinettecounty.com* to give us your answer. Any interesting facts about the subject are also welcome. Correct answers will be entered in a drawing for a $20 gift card from Wal-mart. ***Please respond by August 15, 2008.***

Congratulations to Dan & Rosemary Leslie of Peshtigo for guessing last month's photo of the Scott Converting Plant, which was located on Wells Street in Marinette. Thanks to everyone sending in guesses and good luck with this month's photo!

A Stroll through the Prairie

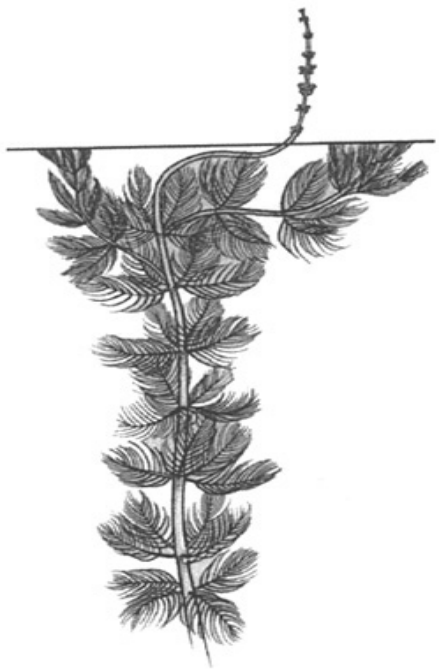
Ever wonder what kinds of flowers live in the prairies and grasslands of Wisconsin? Come join Marinette County staff on a guided hike through the Harmony Arboretum prairie on Thursday, August 14 from 6:30-8:00 p.m. to learn more about our native prairie ecosystems and the plants and animals that live there. This is a free public program. For more information, see the Harmony Arboretum Calendar on page 8 or call the Land & Water Conservation at 715-732-7780. Harmony Arboretum is located 7 miles west of Marinette, ½ mile south of State Highway 64 on County E.

Eurasian Water Milfoil Control Efforts Underway on Beecher and Little Newton Lakes

By Chuck Druckrey, Water Resources Specialist

In June 2007 one of the most troublesome invasive species to appear in Marinette County, Eurasian water milfoil (EWM), was discovered growing in Beecher Lake. A few months later it was found in Little Newton Lake. In both cases, lakefront property owners sprang into action. Lake residents worked with the Marinette County Land & Water Conservation Division (LWCD) to apply for Wisconsin DNR aquatic invasive species control grants to fund management and control efforts.

If you spend much time on Wisconsin lakes you have probably already heard of Eurasian water milfoil. As the name implies, EWM is native to Western Europe and Asia. While it's relatively new to Marinette County, this invader has been on the march in Wisconsin for more than two decades. As with most invasive species, EWM is an extremely aggressive plant with a growth form that allows it to out-compete our beneficial native plants. EWM has the ability to grow rapidly at lower water temperatures than most native plants. In many lakes it over-winters green then quickly grows to the surface and forms a canopy by early summer. This allows it to shade out competitors and take over a lake.



Eurasian water milfoil, *Myriophyllum spicatum*

In Little Newton Lake EWM was discovered by LWCD staff while monitoring the lake for hydrilla, another aquatic invasive species. After surveying the entire lake it was determined the spread of EWM was fairly limited, leading us to believe the invasion was relatively recent, holding out hope that eradication might be possible. Within weeks of the discovery lakefront property owners and the County LWCD developed a plan of action and applied for an aquatic invasive species "Rapid Response Grant". The plan called for treating the EWM beds with 2,4-D, an herbicide that controls EWM at low doses without damaging most of the native aquatic plants. Although chemical treatments are always somewhat controversial, landowners and the DNR agreed this was the only course of action that offered any hope of eradication.

The treatment was completed on June 10 when 2,4-D was applied to nearly 2 acres of Little Newton Lake. Follow-up surveys will be done throughout the summer and fall and any additional EWM will be pulled by hand. If needed a second 2,4-D treatment will be conducted in the spring of 2009.

Applying treatment to Little Newton Lake

In the case of Beecher Lake, the EWM invasion was much more advanced. By the time it was discovered in late June, dense beds of EWM covered more than 12 acres of the lake. In some areas of the lake native plants had all but disappeared, choked out by the aggressive milfoil. Here the Beecher Lake District worked with the County LWCD to apply for an aquatic invasive species "Education and Planning Grant". The grant proposal calls for conducting a detailed aquatic plant survey of Beecher Lake and developing a plan for the long-term control of EWM. In addition to the grant, the Lake District also contracted to have the lake treated with 2,4-D to control EWM and give the beleaguered native plants a chance to recover while the planning takes place.

In both cases the local lake groups are helping to educate the public about the dangers of aquatic invasive species. A major part of the education effort is participation in the "Clean Boats, Clean Waters" watercraft inspection program. In this program volunteers visit boat landings to educate boaters and anglers about the importance of cleaning their trailers and boats to prevent the spread of exotic species between lakes. Hopefully their efforts will spare other area lakes from the same fate.

For more information on aquatic invasive species, available resources, education efforts, and how to prevent EWM outbreaks, visit online:

- **DNR Invasive Species Information** *http://dnr.wi.gov/invasives/aquatic/*
- **Clean Boats, Clean Waters Program** *http://www.uwsp.edu/cnr/uwexlakes/CBCW/default.asp*
- **University of Wisconsin Sea Grant** *http://www.seagrant.wisc.edu/ais/*
- **Wisconsin Association of Lakes** *http://wisconsinlakes.org/AboutLakes/invasives.htm*
- **National Invasive Species Information Center** (United States Department of Agriculture) *http://www.invasivespeciesinfo.gov/index.shtml*
- **A Guide for Proactive & Reactive Management for Aquatic Invasive Species** compiled by Carolyn Scholl of the Vilas County Land & Water Conservation *http://www.wisconsinlakes.org/AboutLakes/PDFs/aisguidevc06.pdf*

Northwoods Journal Online

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Native Landscape Shrubs: Snowberry

By Scott Reuss, UW-Extension Agriculture & Horticulture Agent
Photos from Landscape Plants of the Upper Midwest website at
http://www.midwestlandscapeplants.org/

This edition's native woody perennial feature species is a smaller shrub that is adaptable to many situations and is fully hardy throughout zone 4 (see map at right) and likely hardy in lower zones. However, there is definitely a potential downside to using this particular shrub, as we will discuss shortly.

The Snowberry (*Symphoricarpos albus*) is described as a dense, short, multi-stemmed shrub. The smaller, oppositely placed leaves give it a reasonably fine appearance. When in bloom or after fruiting, the darker green leaf coloration helps the flowers and fruit stand out even more in the landscape. As seen in the pictures, the fruit are much showier than are the flowers.

Although the flowers are not invisible, the tubular pinkish blooms are certainly not showy. In contrast, the brilliantly white half-inch diameter fruit are extremely showy while the leaves are still on. After leaf drop, the fruit will persist on the shrub until November or even later, so will add color and contrast to the fall landscape, at least until the snow flies.

The snowberry's showy white fruits

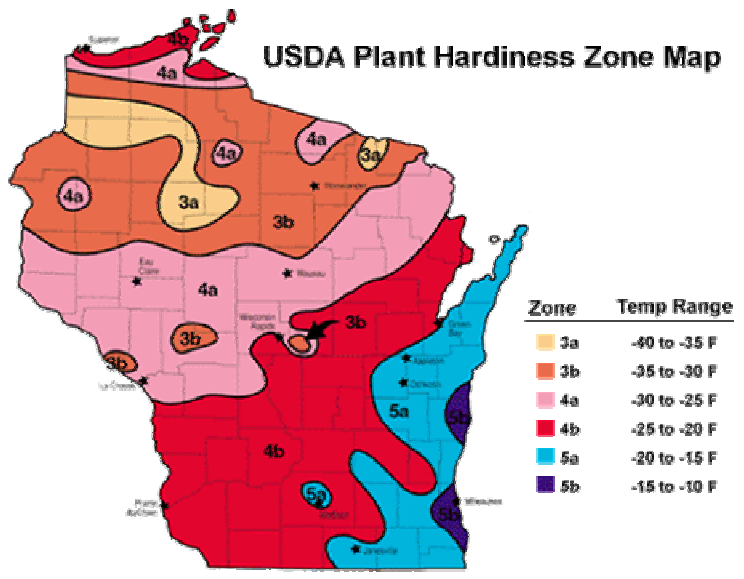
Snowberry in flower

The shrub itself is fairly small in stature, but does tend to spread significantly, which is the potential danger of using it in the landscape. It can become somewhat invasive, although because of that trait, it is usually recommended on steeper slopes as a native plant form of erosion control. Another reason that it can work well on slopes is that it is highly adaptable to different soil types, and can handle drier soil conditions better than most other native shrubs with some landscape interest.

The shrub's natural form is rounded and dense. To maintain this form, you may need to conduct renewal pruning to minimize the density of stems, and to keep the height in check. This is not a fast-growing species, especially in sandier soils, and its maximum height (even on good soils), is only 4 to 6 feet, so trimming for height management should not be too much of an issue.

The high number of stems that will emerge as suckers will create pruning (or mowing) necessity, but this should only be needed once or so during the growing season, just to keep the spread down to your desired width. Renewal pruning is done annually in the dormant season, with a general thinning of all ages of stems so that your final result is a mixed age stand of stems that provide for your desired height but maintaining good bloom potential and overall plant vigor. Although you may see some feeding damage from generalist insects or some occasional aphid damage, there are few consistent problem pests that affect this species.

For any other horticultural information, contact Scott or Linda at the Marinette County UW-Extension office, 715-732-7510, or toll-free at 1-877-884-4408. You can also e-mail Scott at *scott.reuss@ces.uwex.edu.*



Map courtesy University of Wisconsin Urban Horticulture website

Informative websites:

- **University of Wisconsin-Extension Urban Horticulture**
  http://www.uwex.edu/ces/wihort/index.htm
- **American Horticultural Society**
  http://www.ahs.org/
- **Garden Web**
  http://www.gardenweb.com/
- **Wisconsin Master Gardener Program**
  http://www.hort.wisc.edu/mastergardener/

Peshtigo River Trail Paddle Trip

Saturday, September 13th, 10:00 a.m. – 2:30 p.m.

Come join us on a free guided paddle trip on the Lower Peshtigo River from the City of Peshtigo landing to the County Rd. BB landing. Bring your own canoe/kayak or use one of our canoes (limited supply – *call to reserve a canoe starting August 27 at 9am*). Youth under 18 must be accompanied by an adult. To register for the trip or for more information, call 715-732-7780.

Area Events Calendar

June-August **Bands At Badger Park**. Free concerts, 6:30-8:30pm at Badger Park in Peshtigo. Peshtigo Women's Club selling refreshments. August 13 – Check One Two, August 20 – Rivertown. Call (715) 582-0566 for more information and schedule.

June-August **Concerts in the Park**. Free concerts, Thursday evenings (except July 3 & August 7) at the Marina Park Bandshell in Menominee, MI. Contact the Marinette-Menominee Chamber of Commerce at (715) 735-6681 or (800) 236-6681.

June-August **Sunset Concert Series**. Tuesday evenings at 7pm at Stephenson Island - contact the Marinette Area Chamber of Commerce at (715) 735-6681 or (800) 236-6681.

August 6-10 **26th Annual Menominee Waterfront Festival.** Contact the Marinette Menominee Chamber at 715-735-6681 for a complete schedule.

August 8-10 **Thompson Antique & Classic Boat Rally.** Nestegg Marine, 300 Wells Street, Marinette. Rally is open to any and all antique & classic boats with emphasis on Thompson, Cruisers, T&T boats and other related Thompson enterprises. There is a registration fee to display a boat, but is free for the public to view.

August 9 **Northreach Waterfront Run.** 8:00am, runners and walkers of all ages and abilities are invited to participate. Choose from a 5k or 10k run or a 5k walk. Fee is $20. Kids 1/2k race at 9:15am. Race fee for kids is $10. Registrations available at *www.NorthReach.org* and *www.bamc.org* or contact Marinette Menominee Chamber of Commerce 735-6681.

August 14 **Prairie Hike at Harmony Arboretum.** See information below.

August 16 **Rainbow Run.** 9am, start & finish at Stephenson Public Library in Marinette. Registration fee: family/$15, individual/$8. All entry fees donated to Rainbow House. 8am registration and refreshments following event. All ages welcome, families with children may bring bikes, wagons, strollers, etc. No pets please. More information or to volunteer call 735-6656 or email *jpeters74@new.rr.com.*

August 16 **Flea Market.** 7am-1pm, Menominee Courthouse Property, corner of 10th St. & 10th Ave. Sponsored by Marinette Menominee Area Chamber of Commerce. For more information call Laurie at 735-6681 or *lkarasti@*centurytel*.net.*

August 19 **Summer Squash Spectacular at Harmony Arboretum.** See information below.

Aug. 21-24 **Marinette County Fair.** At the Marinette County Fairgrounds in Wausaukee. Demo derbies, truck and tractor pulls, animal judging, exhibits, bands, family entertainment and carnival. For more information call Lisa Witak 715-582-0622 or *lwitak@cybrzn.com*.

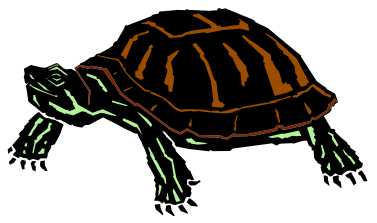
August 31 **Ice Cream Social at the West Shore Fishing Museum.** 12:00-4:00 p.m. at Bailey Park, 15 miles north of Menominee on M-35. Music by Sunroom String Band, games for kids, brats, hotdogs, keg root beer, pie and ice cream. Raffle drawing with more than 70 prizes at 3pm.

September 6 **Annual Kite Fly-in**. 11:30 a.m.-2:00 p.m., Red Arrow Park, Marinette. Come build a kite with the United Way. Materials will be provided free. Free kites, food & games. Featuring Kite Stunts by the Wisconsin Kiters. Questions call 735-7785.

September 13 **Annual Peshtigo River Tour.** 10:00 a.m.-2:30 p.m. See page 7 for more details.

Come Visit Us at the Marinette County Fair!

Visit the Education Tent at the Marinette County Fair August 21-24th at the Wausaukee Fairgrounds! The Education Tent is co-sponsored by the Marinette County UW-Extension, Land & Water Conservation, and the Parks Department and gives visitors the opportunity to learn about many different topics. The Education Tent is located directly across from the main Exhibit Building and Fair Office. You can get brochures, maps, and other information and ask department staff any questions you may have.



Come see the special "Herptile Habitat" display, featuring live reptiles and amphibians. Herptiles are crucial to the food web, and can act as "biological indicators" to help determine the health of wetland habitats. Various species will be on display including snakes, turtles, frogs, and salamanders. Visitors will get a close-up look at these critters that help regulate pest populations, provide food for other animals, and add to the beauty and mystique of our Northwoods home.

If you have any questions about UW-Extension, Land & Water Conservation or the Parks Department, stop by the Education Tent, or contact UW-Extension at 715-732-7510; Land & Water Conservation at 715-732-7780; and Parks at 715-732-7530.

Harmony Arboretum Schedule of Events

Located 7 miles west of Marinette, ½ mile south of State Highway 64 on County E. All programs are free unless otherwise stated.

Thursday, August 14th: Prairie Walk, 6:30-8:00 p.m.
Late summer is the time when prairie flowers bloom and grasses turn golden, and a wonderful time to spend an evening in the prairie! Prairies once covered two million acres of Wisconsin. As Europeans settled in Wisconsin, they converted the treeless prairies into crop fields and learned to control the sweep of wildfires. Today, less than 12,000 scattered acres of prairie exist in Wisconsin. During the program, Marinette County staff will talk about what exactly a prairie is, why and how people restore prairies today, and how to identify different kinds of prairie plants. Call the Marinette County Land & Water Conservation at (715) 732-7780 for more information or to register for the free program.

Tuesday, August 19th: Summer Squash Spectacular, 6:00-8:00 p.m.
Although zucchini sometimes gets a bad rap, the summer squashes are some of the most versatile vegetables in our gardens. This event will highlight the variation of summer squashes available, dozens of recipes to sample, zucchini car and boat races, and many other events. Come join the fun! Call the UW-Extension office at (715) 732-7510 for more information.

Wednesday, September 10th: Chili Night!, 6:00-8:00 p.m.
Part fundraiser for the Demonstration Gardens and part seminar on how to produce all the wonderful vegetables that go into chili-making, this event is sure to please all who participate! Events will include a chili cook-off, mini-seminars, demonstrations, and other exciting opportunities. Call the UW-Extension office at (715) 732-7510 for more information.